PIBS # 3175E

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Ontario

Minister
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Ministry of
Environment
and Energy

Ministère de
l'Environnement
et de l'Énergie

135 St. Clair Avenue West
Suite 100
Toronto ON M4V 1P5

135, avenue St. Clair ouest
Bureau 100
Toronto ON M4V 1P5

June 29, 1994

Ladies and Gentlemen:

Last year I reiterated Ontario's commitment to control substances that destroy the ozone layer, which protects us from the harmful effects of ultraviolet radiation.

Guided by our commitment to the terms of the international agreement, the Montreal Protocol, Ontario has regulated ozone-depleting substances used in aerosols, foam manufacturing, refrigerators and air conditioners. We have also regulated halons used in fire-extinguishers.

Today, I am pleased to release for public consultation two draft regulations that would lead to the control of solvents and sterilants containing ozone-depleting substances such as CFCs, HCFCs and methyl chloroform and others.

Ontario was the first jurisdiction in Canada to control ozone-depleting substances and now has a comprehensive program limiting their release. The proposed solvents and sterilants regulations, combined with those already in place, will control 98 per cent of these harmful substances.

I invite you and your associates to provide written comments based on your experience and knowledge of sterilants. Your contributions are important to us, and will be used to refine the draft sterilants regulation prior to its final release.

I encourage you to read the enclosed material outlining details of the proposed sterilants regulation. If you would like information on either regulation or have any questions, please call the ministry's Public Information Centre at 1-800-565-4923 or call (416) 323-4321 in Toronto.

Yours sincerely,

Bud Wildman

C.J. (Bud) Wildman
Minister
Enclosures

PIBS# 2428E

Ontario

News Release
Communiqué

Ministry of Environment and Energy
Ministère de l'Environnement et de l'Énergie

June 29, 1994

Ontario protects against ozone-damaging solvents and sterilants

Ontario is setting a strict timetable to phase out ozone-depleting sterilants and solvents. When approved, these regulations and others implemented by the government will set controls on 98 per cent of all ozone-depleting substances throughout the province.

Two draft regulations were released today for a 30-day public comment period by Environment and Energy Minister Bud Wildman.

Ontario was the first jurisdiction in Canada to regulate ozone-depleting substances and now has a comprehensive program to limit their release. Past regulations have dealt with the use of chlorofluorocarbons (CFCs) in aerosols, foam manufacturing and refrigerants. The province has also regulated the use of halons in fire extinguishers.

One of the new regulations would phase out the manufacture of solvents containing specific Class 1 ozone-depleting substances such as CFCs, carbon tetrachloride and methyl chloroform as of January 1, 1996. Their discharge, use or transfer will be phased out by July 1, 1996. After 1998, the regulation will prohibit storage of these materials. It also sets a January 2000 phaseout deadline for the less damaging Class 2 chemicals, hydrochlorofluorocarbons (HCFCs), which some users are considering as transitional solvents until they are ready to change to alternate solvents which do not deplete the ozone layer in the upper atmosphere.

The second regulation would prohibit the discharge, manufacture, use or transfer of specific Class 1, CFC-based ozone-depleting sterilants effective January 1, 1996. It would also prohibit storage of these materials after January 1, 1998. Like the solvents regulation, the sterilants regulation sets phaseout deadlines for the use of less damaging HCFCs. These HCFCs will be banned after January 1, 2000 and their storage prohibited by 2002.

"Ontario is living up to Canada's international commitment to eliminate the ozone-depleting chemicals that threaten our environment and human health," Mr. Wildman said.

Written comments on the draft regulations must be mailed by August 2, 1994, to :

The Honourable C.J. Wildman
Minister of Environment and Energy
135 St. Clair Ave. W.
Toronto, Ontario
M4V 1P5

- 30 -

For further information:	Minister's office (416) 323-4360
	Gerry Merchant (416) 323-4333 Public Affairs and Communications Branch

PIBS # 3172E

BACKGROUNDER

Regulation phasing out ozone-depleting sterilants

A draft regulation was released on June 29, 1994 for a 30-day public comment period by Environment and Energy Minister Bud Wildman. The regulation would phase out the discharge, manufacture, use or transfer of specific Class 1, CFC-based ozone-depleting sterilants and ultimately prohibit storage of these materials.

The regulation also sets phaseout deadlines for Class 2 chemicals, the less damaging hydrochlorofluorocarbons (HCFC) which have been developed as interim materials for use during the CFC phaseout.

The draft regulation:

- Prohibits the discharge of specific Class 1 and Class 2 ozone-depleting substances used as a sterilant after January 1, 1996 and 2000 respectively.
- Prohibits making, using or transferring these Class 1 and Class 2 ozone-depleting substances as of January 1, 1996 and 2000 respectively.
- Prohibits the storage of Class 1 and Class 2 ozone-depleting substances used as a sterilant after 1998 and 2002 respectively.
- Requires a report for Class 1 sterilants stored after 1996 and Class 2 sterilants stored after 2000 to be available on request by the Ministry of Environment and Energy.
- Exempts Class 1 and 2 sterilants used for research purposes related to the study of the ozone layer.
- Exempts use where the Class 1 and 2 sterilants used in a process are converted to another substance which is not an Class 1 or 2 sterilant.
- Exempts use where the Class 1 or 2 sterilants are created and then converted to another substance which is not a Class 1 or 2 sterilant.
- This regulation overrides conditions included in existing certificates of approval for Class 1 and 2 sterilants.

Background

Ozone-depleting substances (ODS) cause serious environmental and health problems. They destroy the ozone layer that protects us from ultraviolet (UV-B) radiation and they contribute to the global warming effect. UV-B radiation causes skin cancer, cataracts, crop and material damage.

Among ODS, CFC-12 is used as a diluent of ethylene oxide for the purpose of sterilization of medical devices in hospitals.

Canada has signed the Montreal Protocol which bans the production and import of ODS, including CFCs, by January 1, 1996. Since CFCs are not produced in Canada, they will not be available after the phaseout date. Unlike the federal regulations, Ontario legislation will regulate the use of specified Class 1 and 2 ozone-depleting substances used as sterilants and sets a phaseout schedule for sterilants that complements the Montreal Protocol.

Furthermore, discharge/emissions of sterilants into the environment and limitations of their storage will be prohibited, making the Ontario regulation the most comprehensive legislation in Canada.

With this regulation, Ontario will be the first province to set up a specific schedule for phasing out HCFCs which were designated as transitional substances.

Industry information

CFC-12 is not produced in Canada nor is sterilant equipment. The mixture 12/88 is a blend of 12 per cent ethylene oxide (ETO) and 88 per cent CFC-12. Medical facilities use 12/88 to sterilize medical instruments and equipment such as respiratory equipment, diagnostic instruments and fibre optics.

"Blender" firms, which blend CFC-12 with ethylene oxide to make 12/88, are found in Ontario.

Approximately 120 tonnes of CFCs were used in Ontario last year for sterilization, or 3.4 per cent of total CFC usage. Users of sterilants include hospitals (which account for almost 98 per cent of the total number of sterilizers in the province), pharmaceutical companies, private and provincial medical labs and a veterinary hospital in Guelph. There are approximately 360 CFC-12/ETO sterilizer units in Ontario hospitals.

Alternatives

Alternative sterilizing gases and technologies that can be used instead of the 12/88 gas mixture include:

- Low-temperature Gas Plasma Sterilization
- Low-temperature Gas Plasma Sterilization using hydrogen peroxide, H_2O_2
- Low-temperature Sterilization unit using Peracetic acid
- Low-temperature vapour phase sterilization unit using H_2O_2
- Low-temperature sterilization unit using 100 per cent ethylene oxide gas cartridges
- A system which removes ETO from the air stream exhausted from Steri-Vac Sterilizer
- Use of 10 per cent ETO/90 per cent CO_2 gas mixtures, 100 per cent ETO or HCFC-124 with integrated ETO removal from exhaust
- Gamma Sterilization
- Ultraviolet Radiation

The phaseout is expected to result in upgraded sterilization systems in Ontario hospitals. As well, the development of a "green" industry may result as producers invest in the new market. This technology change presents a potential export opportunity for Ontario.

Changing to cost-effective technologies may bring about savings in sterilization costs. In addition, some alternatives present reduced danger of explosions or adverse health effects from continued use of toxic and cancer-causing ethylene oxide.

Public comment on the proposed regulation must be mailed or delivered by August 2, 1994 to:

Solvents and Sterilants
Industrial Emissions Section
Program Development Branch
Ontario Ministry of Environment and Energy
40 St. Clair Ave. W., 11 Floor
Toronto, Ontario
M4V 1M2

PIBS# 3168

Ontario

DRAFT

REGULATION MADE UNDER THE ENVIRONMENTAL PROTECTION ACT

STERILANTS

1.In this regulation:

"Class 1 Ozone-Depleting Substance" means

-Chlorofluorocarbons (CFCs), limited to:
-CFC-11 , also known as fluorotrichloromethane, chlorofluorocarbon-11, ($CFCl_3$)
-CFC-12 , also known as dichlorodifluoromethane, chlorofluorocarbon-12, (CF_2Cl_2)
-CFC-13 , also known as chlorotrifluoromethane, chlorofluorocarbon-13, (CF_3Cl)
-CFC-111, also known as pentachlorofluoroethane, chlorofluorocarbon-111, (C_2FCl_5)
-CFC-112, also known as tetrachlorodifluoroethane, chlorofluorocarbon-112, ($C_2F_2Cl_4$)
-CFC-113, also known as trichlorotrifluoroethane, chlorofluorocarbon-113, ($C_2F_3Cl_3$)
-CFC-114, also known as dichlorotetrafluoroethane, chlorofluorocarbon-114, ($C_2F_4Cl_2$)
-CFC-115, also known as monochloropentafluoroethane, chlorofuorocarbon-115, (C_2F_5Cl)
-CFC-211, also known as fluoroheptachloropropane, C_3FCl_7
-CFC-212, also known as difluorohexachloropropane, $C_3F_2Cl_6$
-CFC-213, also known as trifluoropentachloropropane, $C_3F_3Cl_5$
-CFC-214, also known as tetrafluorotetrachloropropane, $C_3F_4Cl_4$
-CFC-215, also known as pentafluorotrichloropropane, $C_3F_5Cl_3$
-CFC-216, also known as hexafluorodichloropropane, $C_3F_6Cl_2$
-CFC-217, also known as heptafluorochloropropane, C_3F_7Cl

-Halons, limited to:
-Halon-1211, also known as bromochlorodifluoromethane, (CF_2ClBr)
-Halon-1301, also known as bromotrifluoromethane, (CF_3Br)
-Halon-2402, also known as dibromotetrafluoroethane, ($C_2F_4Br_2$)

-Carbon tetrachloride (CCl_4)

-Methyl chloroform, also known as 1,1,1 trichloroethane, ($C_2H_3Cl_3$)

-All hydrobromofluorocarbons (HBFCs)

-All isomers of any of the above

"Class 2 Ozone-Depleting Substance" means

-All Hydrochlorofluorocarbons (HCFCs)

-All isomers of any of the above

"Sterilant" includes any substance or mixture of substances used as a diluent with ethylene oxide, or with any other substance, for the purpose of sterilization.

Prohibitions

2.(1) Effective January 1, 1996, no person shall discharge into the natural environment a sterilant which contains a Class 1 ozone-depleting substance.

2.(2) Effective January 1, 1996, no person shall make, use or transfer a sterilant which contains a Class 1 ozone-depleting substance.

2.(3) Effective January 1, 1998, no person shall store a sterilant which contains a Class 1 ozone-depleting substance.

2.(4) Effective January 1, 2000, no person shall discharge into the natural environment a sterilant which contains a Class 2 ozone-depleting substance.

2.(5) Effective January 1, 2000, no person shall make, use or transfer a sterilant which contains a Class 2 ozone-depleting substance.

2.(6) Effective January 1, 2002, no person shall store a sterilant which contains a Class 2 ozone-depleting substance.

2.(7) A person who,

(a)after January 1, 1996 stores a sterilant which is a Class 1 ozone-depleting substance, or

(b)after January 1, 2000 stores a sterilant which is a Class 2 ozone-depleting substance,

shall prepare, by February 15th of the respective year mentioned above and every succeeding year, a report detailing the sterilants stored which are Class 1 or 2 ozone- depleting substances, the containers used, the place and manner of storage, the safety and security measures in place, and the intentions of the person with respect to the disposal or ultimate fate of the sterilants.

2.(8) A person required by subsection (7) to prepare a report, shall retain a copy of the report at the site where the storage takes place for at least two years.

2.(9) A person required by subsection (7) to prepare a report, shall submit a copy of the report to the Director within five business days of the Director requesting it.

Exception

3. Section 2, other than subsections 2(1) and 2(4), does not apply in relation to:

a)usage of a Class 1 ozone-depleting substance or a Class 2 ozone-depleting substance in an experimental or research laboratory for purposes related to the study of ozone-depleting substances, replacements therefor, or the characteristics or performance of the ozone layer in the stratosphere;

b)usage in a process in which a Class 1 ozone-depleting substance or a Class 2 ozone-depleting substance is converted to another substance that is not a Class 1 ozone-depleting substance or a Class 2 ozone-depleting substance;

c)usage in a process in which a Class 1 ozone-depleting substance or a Class 2 ozone-depleting substance is generated and then converted to another substance that is not a Class 1 ozone-depleting substance or a Class 2 ozone-depleting substance.

Hazardous Waste

4. Where a sterilant which contains a Class 1 ozone-depleting substance or a Class 2 ozone-depleting substance is to be managed as waste, it shall be managed as a hazardous waste in accordance with Part V of the Act and Regulation 347 and it may be transferred for such purpose.

Certificate of Approval

5. A prohibition in this regulation overrides any conflicting provision in a certificate of approval issued under the Act which is in force when this regulation takes effect.

Note: There will be an additional brief regulation amending the point of impingement numbers in Schedule 1 of Regulation 346 (Air) for methyl chloroform and trifluoro trichloro ethane (CFC-113). These numbers will be reduced to zero, effective January 1, 1996, to coincide with the ban on emissions **unless there are other uses, in addition to use as solvents and sterilants, which can continue and can legally discharge after that date.**

Ministry of
Environment
and Energy

ONTARIO BOOSTS ITS PROTECTION OF THE OZONE LAYER

An Information Seminar on ELIMINATION of OZONE-DEPLETING SUBSTANCES in STERILANTS in ONTARIO

JULY 21, 1994
Main Auditorium
Ontario Hospital Association
150 Ferrand Drive, Don Mills

Organized by the Ministry of Environment and Energy
and The Ontario Hospital Association (OHA)

Ontario

For no-charge participation, please complete the attached form and fax it to:
FAX (416) 429-8563
Ontario Hospital Association
150 Ferrand Drive, Don Mills, Ontario M3C 1H6
Phone (416) 429-2661

ONTARIO BOOSTS ITS PROTECTION OF THE OZONE LAYER

STERILANTS INFORMATION SEMINAR - JULY 21,1994

REGISTRATION FORM

NAME

AFFILIATION

ADDRESS

PHONE (   )   FAX (   )

ONTARIO BOOSTS ITS PROTECTION OF THE OZONE LAYER

STERILANTS INFORMATION SEMINAR, JULY 21,1994 - **PROGRAM**

08:00 - 08:30 a.m.	Registration and Coffee
08:30 - 08:45	Opening Statements *Dr. Peter Victor* *Assistant Deputy Minister* *Ministry of Environment and Energy* *Dennis Timbrell, President* *Ontario Hospital Association*
08:45 - 09:10	Regulation of Ozone-Depleting Substances in Ontario: Ozone-Depleting Sterilants *Mike Moselhy* *Ministry of Environment and Energy*
09:10 - 09:35	Coordination of National and Provincial Activities on CFC/Ethylene Oxide Sterilants *Susan Smythe* *Ontario Hospital Association*
09:35 - 10:00	The Impact of CFC/Ethylene Oxide Sterilants' Phase-out on Equipment Suppliers in Ontario *Kevin Murray* *Medical Devices Canada (MEDEC)*
10:00 - 10:30	COFFEE BREAK
10:30 - 10:55	Occupational Health Implications of CFC/Ethylene Oxide Sterilants' Phase-out *Gloria Rachamin* *Ministry of Labour*
10:55 - 11:20	Workers' Views on the Elimination of Ozone-Depleting Sterilants *John Perquin* *United Steelworkers of America*
11:20 - 11:45	The Impact of CFC/Ethylene Oxide Sterilants' Phase-out from a User's Perspective *Brian Page* *Chedoke-McMaster Hospitals*
11:45 - 12:15	Wrap-up Discussion *Seminar Speakers*
12:30 p.m.	CONCLUSION

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